



Approval # 20090001  
(Revised 20020010)

Environmental & Regulatory Services Division  
Bureau of Petroleum Products and Tanks  
201 West Washington Avenue  
P.O. Box 7837  
Madison, WI 53707-7837

## Wisconsin COMM 10 Material Approval

Equipment: Mobile Barge for Refueling of  
Moored Watercraft

Operator/  
Manufacturer: BOATGAS MARINE REFUELING SERVICE  
P.O. Box 486  
Grafton, WI 53204

Expiration of Approval: December 31, 2013

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### **SCOPE OF EVALUATION**

The refueling barge tank and dispensing system were evaluated in accordance with the applicable sections of **Comm 10.200**, **Comm 10.420**, **Comm 10.430**, and **Comm 10.605**. In addition, the applicable requirements detailed in NFPA 30-2008, and NFPA 30A-2008 was used in the evaluation.

This evaluation summary is condensed to provide the specific installation, application and operation parameters necessary to maintain the subject systems in compliance with the Wisconsin Administrative Code – Comm 10.

## **DESCRIPTION AND USE**

The Boatgas refueling barge is intended for providing watercraft-refueling services to watercraft moored on various lakes in the state of Wisconsin. The barge and refueling system construction consists of the barge base platform; a 500-gallon, low-profile, stainless steel, DOT 406 tank mounted within a collision proof containment dike; and various accessories for operation of the refueling system and barge. The barge is designed and constructed by an aquatic weed harvester manufacturer, and the DOT 406 tank is designed and constructed by a DOT authorized tank manufacturer. The barge is normally utilized for the transport of equipment associated with aquatic weed harvesting. The DOT 406 tank is designed for over the road transport of flammable and combustible liquids, and contains the required vacuum-pressure vent, spill/rollover, and over-pressure protection. Fueling components in addition to the tank include; 12V-dc pump with meter, fuel filters, hose, hose reel, fueling nozzle with integral spout cap, and an emergency shut-off system.

The integration of the barge and tank, plus the design of the collision proof containment, will be directed by an engineer with experience in the design of watercraft, in consultation with the barge and tank manufacturers.

This approval is based on a review of the information provided by Boatgas Marine Refueling Service, including the barge/tank design and a description of the intended use of the marine refueling system. In addition, a review of the appropriate sections of the Comm 10 code and the NFPA 30, and 30A-2008 edition codes was performed.

This approval is granted based on the following considerations:

- Letters of concurrence from the barge and tank manufacturers stating that the tank and barge are suitable for the intended operation.
- Barge is designed with a 50% reserve buoyancy capacity.
- The containment is of adequate size and has been designed with integral collision protection.
- Fuel spills will be addressed based on size of spill. An environmental clean-up firm has been retained to provide remediation services in the event of a spill. Small spills will be cleaned up by barge operator using on-board containment booms and absorbent sheets. These will be bagged and disposed as hazardous material by the remediation firm. Large spills will be contained as best as possible using the method for small spills until the arrival of the remediation firm. The remediation firm will be in charge of large spill clean up. Regardless of size, all spills will be reported to the Wisconsin Department of Natural Resources via their spill notification line.
- On-board fire protection will consist of a 40B:C (minimum) dry chemical fire extinguisher. Mitigating actions will consist of isolating the fuel flow, using the fire extinguisher, and contacting the fire department via a cell phone.

- Barge will operate during daytime hours only, and will not operate during peak lake use periods, including weekends or holidays.
- Barge operates near shore within the slow-no-wake zones greater than 90% of the on-lake time.
- Operators will be trained in regard to operating and emergency response procedures.
- The barge is neither moored nor left unattended on the lake and each day the barge is removed from the lake at the conclusion of refueling operations and stored off the lake.

## **TESTS AND RESULTS**

Dimensioned drawings are on file with the department showing acceptable refueling system configuration and capacity. Calculations were submitted showing adequate containment capacity per **s. Comm 10.420** and collision impact resistance to meet **s. Comm 10.430**.

## **LIMITATIONS / CONDITIONS OF APPROVAL**

- The design and operation of the marine refueling service shall be in accordance with the information provided in the Description and Use section of this material approval, and the specific Limitations/Conditions of Approval listed in this section.
- Prior to operation of the barge and refueling system with petroleum products, a test of the tank, containment, and barge operation on lake will be performed using water in place of fuel. The water level in the tank shall be at the maximum anticipated fuel level for all modes of operation.

Note: operational testing of the fueling system (pump, nozzle, etc.) is not required; however, the emergency shutoff devices shall be electrically tested annually to confirm operability.

- Deliveries shall occur on non-holiday weekdays only, from no earlier than 1/2 hour after sunrise to no later than 1/2 hour before sunset, during non-inclement weather. Sunrise and sunset times for each day shall be based on the NOAA ESRL Sunrise/Sunset Calculator.
- The watercraft being fueled shall be secured to a fixed pier or boatlift.
- No fueling shall be performed in a boathouse or other type of enclosed shelter.
- A separation distance of at least 3-ft. shall be maintained from the fueling point to electrical transformers and switch/junction boxes.
- No one other than fueling attendant(s) shall be on the barge or the watercraft being fueled during fueling operations.

- The motors (engines, fans, bilge blowers, etc.) of all watercraft being fueled shall be shut off during fueling operations.
- Signs shall be visibly posted prohibiting smoking, open flames, or operation of watercraft within 20-ft of fueling point during fueling operations.
- The barge shall be identified by highly visible markings.
- Provisions for additional anchoring/mooring shall be available for use in case of stabilizing leg failure.
- Only trained personnel shall dispense fuel. Training topics shall include normal fueling operation and procedures; environmental and fire emergency response procedures; and the design and operational requirements of this material approval.
- A flasher-strobe warning light shall be mounted on the barge, and shall be activated during the fueling operation.
- The barge and watercraft being fueled shall be electrically bonded.
- Fuel expansion space shall be left in each tank to prevent overflow in the event of a temperature increase.
- The dispensing nozzle shall be a listed, automatic-closing type without a latch open device. It will also incorporate a "no-drip" design.
- The barge operator shall maintain an agreement with an emergency response provider for spill containment and clean up in the event of an accidental release.
- This material approval does not waive any of the applicable Comm 10 or NFPA 30/30A code requirements relating to aboveground storage tanks (ASTs) and marine fueling that are not specifically addressed in this material approval.
- This material approval does not take the place of any required inspection or permit functions. All permits required by the state or local municipality shall be obtained prior to commencement of operation.
- This material approval does not waive any retail fuel dispensing requirements, such as Comm 48.04 and 48.10; nor does it wave any requirements of the Wisconsin Department of Revenue, Department of Natural Resources, Department of Transportation, Department of Agriculture, Trade and Consumer Protection or the United States Coast Guard.

This approval will be valid through December 31, 2013, unless manufacturing modifications are made to the product or a re-examination is deemed necessary by the department. The Wisconsin Material Approval Number must be provided when correspondence relating to this approval is submitted.

**DISCLAIMER**

The Department is in no way endorsing or advertising this product. This approval addresses only the specified applications for the product and does not waive any code requirement unless specified in this document.

This evaluation only considered the design and applicability of the mobile refueling barge flammable liquid storage and dispensing components as related to the safe storage and dispensing operation of the refueling portion of the system. Review of suitability of the design for over-the-road transport, suitability for operation of the modified barge in water, and operator training program, was not performed.

Reviewed by: \_\_\_\_\_

Greg Bareta, P. E.  
Engineering Consultant  
Bureau of Petroleum Products and Tanks

Approved by: \_\_\_\_\_ Date: \_\_\_\_\_